Notice of Allowability	Application No.	Applicant(s)	
	10/609,105	GRAY, JAN S.	
	Examiner	Art Unit	
	Tuan V. Thai	2186	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *Examiner interviewed conducted 10/27/06 and brief filed 8/15/2006*.

2. ☒ The allowed claim(s) is/are *11,13-16,18-19,21-23,42,44-46,48-49 and 56-68 renumbered as 1-19 respectively*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

TUAN V. THAI
PRIMARY EXAMINER
GROUP 2100

Attorney's Docket No.: MS1-1536US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	GARY, JAN S.	**Group:**	2186
Serial No.:	10/609,105	**Examiner:**	Tuan Thai

For: ***CACHE RESIDENCY TEST INSTRUCTION.***

1. This action is responsive to Examiner interview conducted on October 27, 2006 and Appeal Brief filed August 15, 2006. Claims 11, 13-16, 18-19, 21-23, 42, 44-46, 48-49 and 56-68 are now allowed. Claims 1-10, 12, 17, 20, 24-41, 43, 47, 50-55 have been canceled.

EXAMINER'S AMENDMENT

2. An Examiner's Amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 C.F.R. 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the Issue Fee.

3. Authorization for this Examiner's Amendment was given in a telephone interview with Mr. William J. Breene III, Reg. No. 45,313 on October 27, 2006.

4. The application has been amended as follows:

a. In the claims:

a1. ***Cancel claims 17, 43 and 50.***

a2. Amending claims 11, 42, 45, 56 and 63 as following:

Claim 11 (Amended) A method comprising:

querying whether a set of data resides in a cache memory that is communicatively coupled to a processor unit by comparing an address of the set data with at least one other address in the cache memory, wherein the cache memory includes a plurality of levels; and

receiving an indication at the processor unit from the querying which indicates whether the set of data resides in the cache memory wherein if the address is included in the cache memory, the indication indicates at which level of the plurality of levels the address is included; and

communicating the indication to an operating system being executed on the processor unit.

Claim 42 (Amended) For use on a processor unit that is communicatively coupled to a comparison unit that is communicatively coupled to a cache memory, a cache residency test

instruction, which when executed on the processor unit, configures the comparison unit to perform acts comprising:

comparing an address received from the processor unit with an address in the cache memory;

providing an indication to the processor unit based on the comparing of whether the address is included in the cache memory, wherein the indication indicates to the processor unit whether the address is included in the cache memory, and if so, at which level of a plurality of levels of the cache memory the address is included; and

communicating the indication to an operating system being executed by the processor unit.

Claim 45 (Amended) A system comprising:

a cache memory that includes a plurality of levels; and

a processor unit communicatively coupled to the cache memory, wherein the processor unit includes a cache residency test instruction that, when executed, configures the processor unit:

to query whether a set of data resides in the cache memory;

to receive an indication from the query of whether the set of data resides in the cache memory, wherein if the set of data is included in the cache memory, the indication indicates at which level of the plurality of levels the set of data is included;

to establish a relative amount of time to access the set of data; and to communicate the indication and the relative amount of time to software being executed on the processor unit.

Claim 56 (Amended) A processor chip comprising

a processor unit having a coupling for communicatively coupling the processor unit to a cache memory having a plurality of levels, wherein:

the processor unit includes storage for a cache residency test instruction; and

an execution of the cache residency test instruction with the processor unit configures the processor unit to determine if a set of data resides in the cache memory, and if so, establish which of the plurality of levels the set of data resides, establish a relative amount of time to access the set of data, and communicate a result of the determination and the relative amount of time to software being executed on the processor unit.

Claim 63 (Amended) A computing device comprising:

a storage device; and

a processor chip, communicatively coupled to the storage device, and including:

a cache memory having a plurality of levels; and

a processor unit communicatively coupled to the cache

memory, wherein the processor unit includes storage for a cache residency test instruction that, when executed by the processor unit, configures the processor unit to determine if a set of data resides in the cache memory, and if so, which of the plurality of levels of the cache memory the set of data resides, and to communicate a result of the determination to an operating system being executed on the processor chip.

REASONS FOR ALLOWANCE

5. The following is an Examiner's Statement of Reasons for Allowance:

The prior arts of record do not teach nor suggest, *either alone or in combination*, **all** the limitations of the amended claim (claims 11, 19, 42, 45, 56 and 63) of the current invention. The discussion of the reasons for allowance shall be directed to claim 11 in which the Examiner shall designate as the primary invention in this application; however, the reasons for allowance will also apply to all other indicated independent claims which claim and address the same subject matters as in claim 11. The prior arts of record do not teach nor suggest the system and method for performing cache residence test instruction comprises querying whether a set of data resides in a cache memory that is

communicatively coupled to a processor unit by comparing an address of the set data with at least one other address in the cache memory, wherein the cache memory includes a plurality of levels; and receiving an indication at the processor unit from the querying which indicates whether the set of data resides in the cache memory wherein if the address is included in the cache memory, the indication indicates at which level of the plurality of levels the address is included; and communicating the indication to an operating system being executed on the processor unit. In light of the foregoing, claims 11, 19, 42, 45, 56 and 63 of the present application are found to be patentable over the prior arts. Claims 13-16, 18, 21-23, 44, 46-49, 57-62 and 64-67 further limit the allowable independent claims. These claims are therefore allowable for the same reason as set forth above.

Any comments considered necessary by Applicant must be submitted no later than the payment of the Issue Fee and, to avoid processing delays, should preferably accompany the Issue Fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan V. Thai whose telephone number is (571)-272-4187. The examiner can normally be reached on from 6:30 A.M. to 4:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mathew M. Kim can be reached on (571)-272-4182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TVT/October 28, 2006

Tuan V. Thai

PRIMARY EXAMINER

Group 2100